CLAIMS

1. An image decoding method comprising:

splitting an upper coding block into a plurality of lower coding blocks according to split information;

determining a current quantization group based on a split value of a current coding block among the plurality of lower coding blocks and a split value of the current quantization group;

obtaining a quantization parameter of the current quantization group; and

inverse quantizing transform coefficients in a current transform block in the current coding block using the quantization parameter,

wherein:

the split value of the current coding block is increased by 1 if the current coding block is obtained by splitting the upper coding block into two lower coding blocks according to non-quadtree split, and

the split value of the current coding block is increased by 2 if the current coding block is obtained by splitting the upper coding block into four lower coding blocks according to quadtree split.

2. The image decoding method of claim 1, wherein the current quantization group comprises one or more blocks comprising the current coding block, and

the one or more blocks comprised in the current quantization group are inverse quantized according to a same quantization parameter.

3. The image decoding method of claim 1, wherein a split value of one of the plurality of lower coding blocks based on the quadtree split indicates that a number of times the quadtree split is performed to obtain the current quantization group from a largest coding block, and a split value of the one of the plurality of lower coding blocks based on the non-quadtree split indicates that the number of times a split that is not the quadtree split is performed to obtain the current quantization group from the largest coding block.

4. The image decoding method of claim 1, wherein the current quantization group is determined according to a weighted sum of a number of splitting times by the quadtree split and a number of splitting times by the non-quadtree split.